REMARKS

Reconsideration of the above identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-39 are in this case. Claims 13-39 were withdrawn under a restriction requirement as drawn to non-elected groups. Claims 5, 6 and 12 were objected to. Claims 1-4 and 7-11 have been rejected. Claim 10 (second claim No. 10) has been cancelled. Claims 1, 4, 5, 6, 8 and 9, have now been amended. Claim 40 (formerly second claim 10) and new claim 41 have been added.

Drawings and Specification Corrections

Corrections to Figure 4 and the specifications have been made to correct errors properly noted by the Examiner.

Claim Objections

The Examiner has properly noted that Applicant has filed two claims numbered 10. Second claim 10 has now been renumbered as claim 40 (with a designated status "previously presented" in the Claims section), to thereby overcome the Examiner's objection with respect thereto.

In addition, Applicant has found typographical errors in claims 4, 5, 6, 8 and 40 (formerly second claim 10) all of which include the phrase "non-conduction." For the purpose of providing a sufficient antecedent basis to the other claims, Applicant has replaced "non-conduction" with "non-conductive."

35 U.S.C. § 112, second paragraph Rejections

The Examiner has rejected claims 9-10 as being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicant regards as the invention. The Examiner properly notes that the phrase "non-conductive material" found in claim 9 lacks antecedent basis.

Claim 9 has now been amended to depend on amended claim 8, to thereby overcome the Examiner's rejection with respect to claim 9 as well as claim 10 and previously presented, now renumbered, claim 40 depending therefrom.

Applicant hence believes to have overcome the 35 U.S.C. § 112, second paragraph rejections.

35 U.S.C. § 102(b) Rejections

The Examiner has rejected claims 1-4 and 7-11 as being anticipated by U.S. Patent No. 3,912,543 (Delahut), claims 1-4 and 7-10 as being anticipated by U.S. Patent No. 4,152,825 (Bruneau), and claims 1, 7 as being anticipated by either U.S. Patent No. 5,470,357 (Schmutz *et al.*) or U.S. Patent No. 5,100,746 (Muller *et al.*).

The present invention is of a method of using a lamination process for manufacture a flexible thin layer electrochemical cell. Although the prior art electrochemical cells cited by the Examiner include different combinations of (positive and negative) electrode layers and a separator layer, the present invention successfully provides novel and non-obvious features which improve the manufacturing process far beyond any conventional process.

In particular, unlike Delahunt, Brunear, Schmutz *et al.* and Muller *et al.*, where all the layers of the electrochemical cells are stacked on a leading layer one above the other during the manufacturing process (hence complicate the entire manufacturing process and increase the cost thereof), the separator layer of the present invention serves as a leading spine of the electrochemical cell upon which the electrode layers are laminated, preferably simultaneously.

Applicant wishes to point out that, unlike the method of the claimed invention, where electrodes are laminated on the separator simultaneously, in all prior art methods cited by the Examiner, the separator is placed on the electrodes. It is the Applicant's strong opinion that this feature has not been anticipated by the prior art nor has it been rendered obvious thereby.

The lamination of the electrode on the separation layer is described in claim 1 of the present invention, by the phrase:

"laminating together said positive and negative electrode layers onto said separator layer..." (emphasis added)

Delahunt describes the separator insertion in column 5, lines 37-39 as follows:

"...adhesive adapted upon application of thermal energy to secure the separator to the anode and cathode, respectively...."

Bruneau discloses the method of preparation in claim 1, lines 65-68 as follows:

"...thereon depositing in a predetermined sequence superposed on each first current collector electrolyte, anode materials, cathode materials, separators and intercell connectors..."

Schmutz *et al.* describes the separator insertion in Example 10, column 8, lines 3-6 as follows:

"...A carbon negative electrode element 13 as prepared in Example 8, was overlaid upon grid 11, and was itself overlaid with electrolyte/separator element 15..."

Schmutz *et al.* further describes the separator insertion in example 14, column 14, lines 28-30 as follows:

"...An electrolyte/separator element 45 from Example 6 was then inserted between the electrode/collector battery pair..."

Hence, as will be appreciated by the Examiner, none of the above citations discloses or teaches simultaneous lamination of both electrodes onto the separator as is disclosed in the present invention.

A typical separator layer is made, at least partially, as a porous material, soaked with a liquid electrolyte. To prevent leakage of the liquid electrolyte from the separator layer by capillary forces, prior art methods include a

post-lamination step in which a sealing compound is added on the sides of the cell.

In one embodiment of the present invention, a sealed region is impregnated into the separator layer, prior to the lamination process, hence eliminating the need for any additional leading layer. In addition, an adhesive material may be applied on the electrode layers.

During the lamination step, the separator layer along with the electrode layers is passed together through a lamination unit, which presses the layers together. The adhesive material ensures that the impregnated sealed region is adhered to the electrode layers, thereby prevents possible leakage of liquid electrolyte by capillary forces from the separator layer.

The Examiner states that Delahunt and Bruneau disclose impregnated layers as a part of the battery. Applicant wishes to point out that the impregnation of Delahunt and Bruneau are directed to prevent short circuit due to the Polaroid bi-polar structure.

In sharp distinction the impregnation of the separator layer of the present invention is for the purpose of providing a sealing layer, to prevent any leakage of liquid electrolyte through the porous separator layer.

While traversing the Examiner's rejection with respect to claims 1-4 and 7-11, Applicant, in order to expedite the prosecution of this application has chosen to amend claim 1 to include the limitation of impregnation of the separator layer. In addition, Applicant has further chosen to amend the language of a portion of claim 1 so as to emphasize the particular feature of the present invention in which the electrodes are simultaneously laminated on the separator layer, by passing all the layers through a lamination unit.

These amendments find support in Page 7, lines 9-12, Page 20 Lines 4-6 and Page 21, lines 8-10 of the specification.

The Examiner states that none of the prior art of record discloses the particular impregnation agent claimed in claim 12. In view of the Examiner's

statement new claims 41-42 have been added to include the limitations of objected to claim 12 and rejected claims 8 and 11.

In view of the above amendments and remarks it is respectfully submitted that claims 1-12 and 40-42 are now in condition for allowance.

Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

Sol Sheinbein
Registration No. 25,457

Date: November 20, 2003.

Encl.

1) Late Response fees;
2) Add Claims Fees; and
3) Amended Figure 4.